CLAIMS

1. A manufacturing process for a fuel cell having a fuel electrode, an oxidizer electrode, and a polymer electrolyte membrane held between both the electrodes, and having electrode catalyst layers which are individually provided between both the electrodes and the polymer electrolyte membrane;

the process comprising the step of ejecting an electrode catalyst composition containing conductive particles carrying thereon at least a catalyst, by an ink-jet process on a layer-forming surface on which each electrode catalyst layer is to be formed.

2. The process according to claim 1, which further comprises the step of ejecting the electrode catalyst composition containing conductive particles carrying thereon at least a catalyst, ejecting the same a plurality of times by the ink-jet process within the same one pixel on a layer-forming surface on which each electrode catalyst layer is to be formed.

3. The process according to claim 1, wherein the electrode catalyst composition is ejected in a droplet quantity of from 1 pl to 100 pl per droplet.

4. The process according to claim 1, wherein

the layer-forming surface on which each electrode catalyst layer is to be formed is each side of the polymer electrolyte membrane.

5. The process according to claim 1, wherein the fuel cell further comprises a diffusion layer between i) at least one of the fuel electrode and the oxidizer electrode and ii) the polymer electrolyte membrane, and the layer-forming surface on which each electrode catalyst layer is to be formed is at least one of the surfaces which are to face each other, of the polymer electrolyte membrane and the diffusion layer.

6. The process according to claim 1, wherein the conductive particles comprise a conductive carbon.

7. A fuel cell apparatus comprising the fuel cell manufactured by the process according to claim 1, a housing which houses the fuel cell, and an electricity-withdrawing electrode for withdrawing to the outside the electricity generated in the fuel cell.

8. A manufacturing process for a fuel cell having a fuel electrode, an oxidizer electrode, a polymer electrolyte membrane held between both the

electrodes, and electrode catalyst layers which are individually provided between both the electrodes and the polymer electrolyte membrane;

the process comprising the step of ejecting an electrode catalyst composition containing conductive particles carrying thereon at least a catalyst wherein the electrode catalyst composition is ejected a plurality of times in a droplet quantity of from 1 pl to 100 pl per droplet within the same one pixel on a layer-forming surface on which each electrode catalyst layer is to be formed.

9. The process according to claim 8, wherein the layer-forming surface on which each electrode catalyst layer is to be formed is each side of the polymer electrolyte membrane.

10. The process according to claim 8, wherein the fuel cell further comprises a diffusion layer between i) at least one of the fuel electrode and the oxidizer electrode and ii) the polymer electrolyte membrane, and the layer-forming surface on which each electrode catalyst layer is to be formed is at least one of the surfaces which are to face each other, of the polymer electrolyte membrane and the diffusion layer.

11. The process according to claim 8, wherein the conductive particles comprise a conductive carbon.

12. The process according to claim 8, wherein the fuel cell is a solid-polymer type fuel cell.

13. A fuel cell apparatus comprising the fuel cell manufactured by the process according to claim 8, a housing which houses the fuel cell, and an electricity-withdrawing electrode for withdrawing to the outside the electricity generated in the fuel cell.